

GENERAL POWER OF ATTORNEY
(Concerning Several International Patent Applications)

The undersigned, Vernon R. Rice, Vice President and Assistant General Counsel of E. I. DU PONT DE NEMOURS AND COMPANY, 1007 Market Street, Wilmington, Delaware 19898 USA ("DuPont"), hereby confirms that the power to sign for DuPont has been granted to various individuals (as set forth in the attached excerpt from DuPont's Patent Board Rules of Procedure (January 1988), Appendix Section III.A.4), including the Chairman, Vice-Chairman, and those individuals who are Assistant Secretaries of the Patent Board. Currently these Assistant Secretaries are:

Roger A. Bowman
Linda J. Davis
John E. Griffiths

Miriam D. McConahay
Dorothy W. Shafer
Deborah A. Meginniss

In addition, the authority to act on behalf of DuPont before the competent International Authorities in connection with any and all international patent applications filed by it with the United States as Receiving Office and to make or receive payments on its behalf is hereby granted to:

Beardell, Lori Y.	34,293	Katz, Elliott A.	26,396
Belopolaky, Inna	43,319	Kelly, Patricia L.	39,247
Benjamin, Steven C.	36,087	King, Karen K.	34,850
Birch, Linda D.	38,719	Kuller, Mark D.	31,925
Bowen, Jr., Alanson G.	24,027	Krukiel, Charles E.	27,344
Christenbury, Lynne M.	30,971	Jarnholm, Arne R.	30,396
Cotreau, William J.	36,490	Langworthy, John A.	32,255
Deitch, Gerald E.	30,457	Lerman, Bart E.	31,897
Deahmukh, Sudhir	33,677	Levitt, Cary A.	31,848
Dobson, Kevin S.	40,296	Magee, Thomas H.	27,355
Duffy, Roseanne R.	33,869	Mayer, Nancy S.	29,190
Edwards, Mark A.	39,542	Medwick, George M.	27,456
Estrin, Barry	26,452	Morrissey, Bruce W.	30,663
Evans, Craig H.	31,825	Santopietro, Lois A.	36,264
Fair, Tamera L.	35,867	Schaeffer, Andrew L.	33,605
Feltham, S. Neil	36,506	Sebree, Chyrrea J.	45,348
Floyd, Linda Axamethy	33,692	Shafer, Robert J.	24,437
Frank, George A.	27,636	Shay, Lucas K.	34,724
Golian, Andrew G.	25,293	Shipley, James E.	32,003
Gorman, Thomas W.	31,959	Siegell, Barbara C.	30,684
Gould, David J.	25,338	Sinnott, Jessica M.	34,015
Griffiths, John E.	32,647	Steinberg, Thomas W.	37,013
Hamby, Jane O.	32,872	Stevenson, Robert B.	26,039
Hamby, William H.	31,521	Strickland, Frederick D.	39,041
Heiser, David E.	31,366	Tessari, Joseph A.	32,177
Hendrickson, John S.	30,847	Tulloch, Rebecca W.	36,297
Jones, Brian C.	37,857	Walker, P. Michael	32,602
Joung, J. Kenneth	41,881	Wang, Chen	38,650

The undersigned ratifies fully all actions already taken by the above-named individuals in accordance with the authority granted hereby.

E. I. DU PONT DE NEMOURS AND COMPANY

By: _____

Vernon R. Rice

Vice President and Assistant General Counsel

Date: _____

Rev. 06/95

Docket Number
BB1159

DECLARATION and POWER OF ATTORNEY

As a below-named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

CHORISMATE BIOSYNTHESIS ENZYMES

the specification of which is attached hereto unless the following box is checked:

☒ was filed on 20 JULY 1999 as U.S. Application No. _____ or PCT International Application No. _____☐ PCT/US99/16354 and was amended on _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is known to me to be material to patentability as defined in 37 CFR § 1.56. I hereby claim foreign priority benefits under 35 U.S.C. § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed.

Application No.

Country

Filing Date

Priority Claimed (Yes/No)

I hereby claim the benefit under 35 U.S.C. § 119(e) of any United States Provisional Application(s) listed below.

U.S. Provisional Application No.

U.S. Filing Date

60/093611

21 JULY 1998

I hereby claim the benefit under 35 U.S.C. § 120 of any United States application(s), or § 365(c) of any PCT International Application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application or PCT International Application in the manner provided by the first paragraph of 35 U.S.C. § 112, I acknowledge the duty to disclose information which is known to me to be material to patentability as defined in 37 CFR § 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application.

Application No.

Filing Date

Status (patented, pending or abandoned)

POWER OF ATTORNEY: I hereby appoint the following attorney(s) and/or agent(s) the power to prosecute this application and transact all business in the Patent and Trademark Office connected therewith:Name: **WILLIAM R. MAJARIAN**Registration No.: **41,173**

Send correspondence and direct telephone calls to:

WILLIAM R. MAJARIAN**E. I. du Pont de Nemours and Company
Legal - Patents
Wilmington, DE 19898, U.S.A.**Tel. No.
(302) 992-4926
Fax No.
(302) 892-7949

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

INVENTOR(S)

Full Name of Inventor	Last Name CAHOON	First Name REBECCA	Middle Name E.
	Signature (please sign full name): <i>Rebecca E. Cahoon</i>		Date: <i>August 26, 1999</i>
Residence & Citizenship	City WILMINGTON	State or Foreign Country DELAWARE	Country of Citizenship U.S.A.
Post Office Address	Post Office Address 2331 WEST 18TH STREET	City WILMINGTON	State or Country DELAWARE
			Zip Code 19806
Full Name of Inventor	Last Name KINNEY	First Name ANTHONY	Middle Name JOHN
	Signature (please sign full name): <i>Anthony Kinney</i>		Date: <i>8/31/99</i>
Residence & Citizenship	City WILMINGTON	State or Foreign Country DELAWARE	Country of Citizenship GB
Post Office Address	Post Office Address 609 LORE AVENUE	City WILMINGTON	State or Country DELAWARE
			Zip Code 19809
Full Name of Inventor	Last Name RAFALSKI	First Name J.	Middle Name ANTONI
	Signature (please sign full name): <i>Antoni Rafalski</i>		Date: <i>8/31/99</i>
Residence & Citizenship	City WILMINGTON	State or Foreign Country DELAWARE	Country of Citizenship U.S.A.
Post Office Address	Post Office Address 2028 LONGCOME DRIVE	City WILMINGTON	State or Country DELAWARE
			Zip Code 19810

☒ Additional Inventors are being named on separately numbered sheets attached hereto.

DECLARATION AND POWER OF ATTORNEY - Page 2

Docket No.: BB1159

Full Name of Inventor	Last Name REDINA <i>Pendina</i>	First Name ALAN	Middle Name R.
	Signature (please sign full name): <i>Alan R. Pendina</i>		Date: <i>9/8/99</i>
Residence & Citizenship	City WILMINGTON	State or Foreign Country DELAWARE	Country of Citizenship U.S.A.
Post Office Address	Post Office Address 506 RIBLETT LANE	City WILMINGTON	State or Country DELAWARE
			Zip Code 19808

RECORDATION FORM COVER SHEET
PATENTS ONLY

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof

1. Submission Type: <input checked="" type="checkbox"/> New <input type="checkbox"/> Resubmission (Non-Recordation) Document ID# _____ <input type="checkbox"/> Correction of PTO Error Reel # _____ Frame # _____ <input type="checkbox"/> Corrective Document Reel # _____ Frame # _____ Data Element in Question : _____	2. Conveyance Type: <input checked="" type="checkbox"/> Assignment <input type="checkbox"/> Security Agreement <input type="checkbox"/> License <input type="checkbox"/> Change of Name <input type="checkbox"/> Merger <input type="checkbox"/> Other _____ US. GOVERNMENT (For Use ONLY by U.S. Government Agencies) <input type="checkbox"/> Departmental File <input type="checkbox"/> Secret File Total No. of pages of conveyance document including attachments _____
4. Name of conveying party(ies): ¹ CAHOON, Rebecca E. ² KINNEY, Anthony John ³ RAFALSKI, J. Antoni ⁴ RENDINA, Alan KR. Additional name(s) of conveying party(ies) attached?: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Execution Date: ¹ 26 Aug 1999 ² 30 Aug 1999 ³ 31 Aug 1999 ⁴ 8 Sept 1999	5. Name and address of receiving party(ies): E. I. DU PONT DE NEMOURS AND COMPANY LEGAL PATENTS 1007 MARKET STREET WILMINGTON, DELAWARE 19898 Additional name(s) & address(es) attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5. Application number(s) or patent number(s): If this document is being filed together with a new application, the execution date of the application is: A. Patent Application No.(s): PCT/US99/16354 Docket No.: BB1159 B. Patent No.(s): Additional numbers attached: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
6. Correspondent Name & Address: WILLIAM R. MAJARIAN E. I. DU PONT DE NEMOURS AND COMPANY LEGAL-PATENTS 1007 MARKET STREET WILMINGTON, DELAWARE 19898	7. Total number of applications and patents involved: _____ 8. Total fee (37 CFR 3.41) \$40.00 <input type="checkbox"/> Enclosed (Check No.: _____) <input checked="" type="checkbox"/> Authorized to be charged to deposit account 9. Deposit account number: 04-1928 (Attach duplicate copy of this page if paying by deposit account)
DO NOT USE THIS SPACE	
10. Statement and signature. To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. LINDA REYNAUD <i>Linda Reynaud</i> 23 September, 1999 SENIOR LEGAL CLERK Signature Date Total number of pages comprising cover sheet: 1	

ASSIGNMENT

We, the undersigned
CAHOON, REBECCA E., KENNEY, ANTHONY JOHN, RAFALSKI, J. ANTONI and REDINA, ALAN R.

Hereby declare that

We are the true and first inventors of an invention relating to

CHORISMATE BIOSYNTHESIS ENZYMES

which is disclosed in PCT International Application, **PCT/US99/16354** filed the 20th day of **JULY, 1999** (Case No. **BB1159**); in which the United States of America is a designated state for Letters Patent; and, for valuable consideration, the receipt and adequacy of which is hereby acknowledged and in fulfillment of our pre-existing obligation of assignment, we hereby sell, assign, and transfer unto E. I. du Pont de Nemours and Company, a corporation organized and existing under the laws of the State of Delaware in the United States of America and having its principal place of business at Wilmington, Delaware, hereinafter referred to as the assignee, the entire right, title, and interest in and to the aforesaid application for Letters Patent, including any priority rights derived from the aforesaid application for Letters Patent by virtue of the International Convention for the Protection of Industrial Property for any and all member countries of the aforesaid International Convention, and the entire right, title and interest in and to any and all our inventions, whether joint or sole, disclosed in the aforesaid application for Letters Patent, and in and to any and all applications for Letters Patent for any such inventions in any country whatsoever, and in and to any and all patents for any such inventions in any country whatsoever, with the sole right to file such applications in its name or ours, including the sole right to file such applications under the aforesaid International Convention, together with the sole right to have said patents granted in its name or ours and to enforce said patents and to sue for and recover profits and damages for any and all infringements thereof, and hereby agree, whenever requested, to communicate to said assignee, its successors, assigns, and legal representatives, any facts known to us respecting said inventions, to testify in any legal proceeding, to execute all applications, papers or instruments necessary or required by said assignee, its successors, assigns and legal representatives to carry into effect any of the provisions of this instrument, and generally to do everything possible to aid said assignee, its successors, assigns, and legal representatives to obtain and enforce proper patent protection for said inventions in any and all countries.

Rebecca E. Cahoon (L.S.)
CAHOON, REBECCA E.

DATE: August 26, 1999

J. Antoni Rafalski (L.S.)
RAFALSKI, J. ANTONI

DATE: 8/31/99

Anthony John Kenney (L.S.)
KENNEY, ANTHONY JOHN

DATE: 9/8/99

Alan R. Redina (L.S.)
REDINA, ALAN R.

DATE: 9/8/99

→ **KINNEY**

Alan R. Redina
9/8/99